

WHAT IS CLAIMED IS:

1. A radio-filter of combline structure with a capacitor compensation circuit, comprising:

an input terminal;

an output terminal;

5 a transmission line filter having at least one pair of transmission lines arranged between said input and output terminals which filters input signals through said input terminal to select signals of a given frequency band, said selected signals being delivered to said output terminal, each of said transmission lines having a via-hole located at each of its respective ends;

10 a ground layer connected to said transmission lines through via-holes located at first ends of each of said transmission lines; and

a capacitor compensator of lumped element connected through via-holes located at second ends of said transmission lines to connect the transmission lines and a ground layer, wherein said capacitor compensator of
15 lumped element provides capacitance therebetween.

2. A radio filter as defined in Claim 1, wherein said capacitor compensator is adapted to provide a length of said transmission lines which electrically meets a half wavelength of a center frequency of said transmission line filter.

3. A radio filter as defined in Claim 2, wherein said transmission lines are micro striplines.

4. A radio-filter of combline structure with a capacitor compensation circuit, comprising:

a plurality of input terminals;

a plurality of output terminals;

5 a stripline filter having at least one pair of striplines arranged between first input and output terminals for filtering input signals through said first input terminal to select signals of a given frequency band for delivery to said first output terminal, each of said striplines having a via-hole at each of its respective ends, said first input and output terminals having via-holes;

10 a top ground layer having second input and output terminals formed of closed loop striplines containing via-holes connected respectively with the via-holes of said first input and output terminals of said stripline filter, and

a capacitor compensator formed of a closed loop stripline containing a via-hole connected with one of the via-holes of the striplines of said stripline filter to connect said capacitor compensator with one of the striplines of said stripline filter; and

a bottom ground layer connected to other via-holes of the stripline of said stripline filter which are not connected with said capacitor compensator, wherein said other via-holes ground said stripline.

5. A radio filter as defined in Claim 4, wherein said capacitor compensator further comprises a lumped element adapted to provide capacitance enabling a length of said stripline to electrically meet a half wavelength of a center frequency of said transmission line filter.